

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 - 19. (canceled)

20. (currently amended) A method for implementing internetworking of a set of Content Delivery Networks (CDNs) provided with

respective caches,

respective Directory Name Service or Domain Name Servers,

respective content distribution systems communicatively coupled to respective clients,
and

interface components each susceptible of being associated with a respective ~~network~~ CDN in the set of ~~networks~~ CDNs and co-operating with at least one similar interface component associated with another ~~network~~ CDN in the set of ~~networks~~ CDNs,

the method comprising the steps of:

collecting in the interface components content-related data related to the association of
~~the contents and the caches that contain them~~ the contents;

processing the content-related data to obtain routing data; and

transferring the routing data ~~obtained by processing the content-related data from at least one of the interface components~~ to the Directory Name Service or Domain Name Server of the respective ~~network~~ CDN so as to update at least one table ~~table~~ of the Directory Name Server or Domain Name Server ~~that is different from the interface component such that with the routing data to provide access by to the clients of the respective network~~ CDN to the contents of the networks in the set of associated with the another CDN is implemented through via the at least one table of the Directory Name Service or Domain Name Server of the respective network CDN.

21. (currently amended) The method defined in claim 20 wherein the following steps are performed by at least one of the interface components:

receiving data on the state of the caches of the contents of the respective ~~network~~ CDN,

determining whether the contents require ~~an updating or not~~, and

managing the updating by performing at least one step in the following group comprising:

editing ~~the a~~ respective database,
editing ~~the at least one~~ respective Directory Name Service tables,
editing ~~the a~~ respective log file archive, and
forwarding an update request message to ~~the a~~ similar component associated with the another CDN.

22. (previously presented) The method defined in claim 21 wherein the interface components communicate via a CNAP protocol.

23. (currently amended) A system comprising a set of internetworked Content Delivery Networks (CDNs) provided with

respective caches,
respective Directory Name Service or Domain Name Server,
respective content distribution systems communicatively coupled to respective clients,
and

~~interface components~~ content internetworking gateways (CIGs) susceptible of each being associated with a respective ~~network~~ CDN in the set of ~~networks~~ CDNs and co-operating with at least one similar ~~interface component~~ CIG associated with another ~~network~~ CDN in the set of ~~networks~~ CDNs, the ~~interface components~~ CIGs being configured to collect content-related data related to the association of ~~the contents~~ and the caches that contain ~~them~~ the contents, ~~at least one of the interface components~~ the CIGs being configured to process the content-related data to obtain routing data, the CIGs being configured to transfer the routing data obtained by processing the content-related data to the Directory Name Service or Domain Name Server associated with of the each respective network-CDN so as to update at least one tables of the Directory Name Service or Domain Name Server that is different from the interface component with the routing data so that to provide access by to the clients of the respective network-CDN to the contents associated with the another of the networks CDN in the set of CDN

~~is implemented through~~ via the at least one table of the Directory Name Service or Domain Name Server of the respective networkCDN.

24. (currently amended) The system defined in claim 23 wherein the ~~interface components~~CIGs each comprise:

a module for receiving data on at least one of the state of the respective cache and/orand of the contents of the respective networkCDN,

a module for determining whether the contents require ~~an updating or not~~, and

a module for managing the updating by performing at least one step in the following group comprising:

editing ~~the a~~ respective database,

editing ~~the at least one~~ respective Directory Name Service tables,

editing ~~the a~~ respective log file archive, and

forwarding an update request message to the ~~similar component~~at least one similar CIG.

25. (previously presented) The system defined in claim 24 wherein the interface components communicate via a CNAP protocol.

26. (currently amended) ~~An interface component~~A content internetworking gateway (CIG) for implementing Content Delivery Network (CDN) internetworking between a set of CDNs, the networksCDNs being comprised in a set and being provided with

respective caches,

respective Directory Name Service or Domain Name Servers, and

respective content distribution systems communicatively coupled to respective clients, the ~~interface component~~CIG being susceptible of being associated with a respective ~~network~~CDN in the set of ~~networks~~CDNs and co-operating with at least one similar ~~interface component~~CIG associated with another ~~network~~CDN in the set of ~~networks~~CDNs, the ~~interface component~~CIG being configured to collect content-related data related to the association of the contents and the caches that contain ~~them~~the contents, the ~~interface component~~CIG comprising:

a processor, and
a memory having stored thereon instructions that, when executed by the processor, perform:

~~at least one first interface module for exchanging message data content~~
with the at least one similar component CIG,

~~a second interface module for interfacing with the Directory Name Service of the respective network~~CDN, and

~~a core for collecting and processing the the content-related data received by the interface component and routing respective requests,~~

~~whereby the interface component is susceptible of obtaining routing data from the processed content-related data, and~~

~~transferring the routing data obtained by processing the content-related data to the Directory Name Service or Domain Name Server of the respective network CDN via the second interface module, the routing data being used to update at least one tables of the Directory Name Service or Domain Name Server that is different from the interface component with the routing data to provide access to the clients of the respective CDN to contents associated with the another CDN via the at least one table of the Directory Name Service or Domain Name Server of the respective CDN.~~

27. (currently amended) The ~~interface component CIG~~ defined in claim 26, wherein the ~~interface component~~instructions, when executed by the processor, further perform ~~is configured to be controlled by a monitoring system and comprises:~~

~~a third interface module for retrieving data on the availability of contents from the a content distribution system on the~~associated with the respective network CDN, and

~~a fourth interface module for interacting with the a monitoring system configured to control the CIG.~~

28. (currently amended) The ~~interface component CIG~~ defined in claim 26, wherein the ~~core~~comprises instructions, when executed by the processor, further perform:

~~a module for receiving data from the interface modules and extracting data on the status of the caches and/or extracting data of on the contents of the respective network-CDN therefrom,~~
~~a module for determining whether the contents require an updating or not, and~~
~~a module for managing the updating by performing at least one step in the following group comprising:~~

~~editing the a respective database,~~
~~editing the at least one respective Directory Name Service tables,~~
~~editing the a respective log file archive, and~~
~~forwarding an update request message to the at least one similar interface component CIG.~~

29. (currently amended) The ~~interface component CIG~~ defined in claim 28, wherein ~~each first interface module the CIG~~ is configured to communicate with ~~another first interface module of the at least one similar component CIG~~ via a CNAP protocol.

30. (currently amended) The ~~interface component CIG~~ defined in claim 29, wherein ~~each the CIG first interface module~~ is configured to translate from the CNAP protocol to a format that can be understood by ~~a core of another interface component the at least one similar CIG.~~

31. (currently amended) The ~~interface component CIG~~ defined in claim 30, wherein the communication between the ~~CIG first interface module and another the first interface module of at least one a similar interface component CIG~~ comprises the transmission of signals indicating quantities from the ~~following group comprising:~~

~~an ID of the network-CDN in which the interface component CIG is associated,~~
~~an IP address of the computer hosting the local interface component associated with the CIG,~~

~~ID's of interconnected systems interconnected via the interface component CIG and the at least one similar interface component CIG,~~

~~IP addresses of the remote interface components of associated with the internetworking systems CDNs,~~

~~a level of confidences of the an~~ internetworking network connection, and
at least one identification of a physical characteristics, ~~such as the geographical distance of the connection between the interfacing component and the similar interface component.~~

32. (currently amended) The ~~interface component~~CIG defined in claim 26, wherein ~~the CIG~~each first interface module is configured to exchange information with ~~a the at least one similar interface component~~CIG via an IP transportation protocol ~~such as the TCP protocol.~~

33. (currently amended) The ~~interface component~~CIG defined in claim 26, wherein ~~the core and the first interface module are~~CIG is configured to exchange signals indicating quantities selected from the following group:

- a URL identifying the content to which the message content refers,
- an IP address of the cache that distributes the contents,
- an ID of the ~~Content Delivery Network~~CDN to which the cache belongs,
- a cache state,
- a content state in the cache, and
- a life time of ~~the~~ routing data.

34. (currently amended) The ~~interface component~~CIG defined in claim 27, wherein ~~the fourth interface module~~CIG is configured to transfer ~~to the core~~ signals indicating quantities from the following group comprising:

- an IP address of the cache to which the message content refers,
- a percentage of CPU used by the cache,
- a percentage of RAM used by the cache,
- a percentage of disc used by the cache, and
- a percentage of users connected in relation to the maximum capacity of the involved cache service.

35. (currently amended) The ~~interface component~~CIG defined in claim 27, wherein the ~~third interface module~~CIG is configured to ~~send~~transfer to the core signals indicating quantities from the following group comprising:

- a URL identifying the content to which the message content refers,
- a list of IP addresses of the caches of the content,
- a level of confidence of the content,
- a level of availability of the content,
- a cache state,
- a life time of the routing data.

36. (currently amended) The ~~interface component~~CIG defined in claim 35, wherein the quantity identifying the level of confidence of the content is ~~susceptible of assuming distinct levels corresponding to at least one first level of confidence in~~selected from the group comprising:

- a first level of confidence indicating that the contents ~~may be~~is configured to be exchanged by all ~~networks~~CDNs in the set of ~~networks~~CDNs, and
- a second level of confidence indicating that the contents ~~may be~~is configured to be exchanged ~~on~~by a selectively determined subset of ~~networks~~CDNs in the set of ~~networks~~CDNs.

37. (currently amended) The ~~interface component~~CIG defined in claim 26, wherein the second interface moduleCIG is configured to communicate with the Directory Name Server to update at least one respective tables on the basis of signals indicating quantities from the following group comprising:

- an ID of ~~the~~an operation to be ~~carried out~~conducted on the at least one respective table of the ~~server~~Directory Name Server, the ID identifying the operation to be one of ~~such as an~~ addition ~~or~~and a deletion,
- a type of register,
- a name of ~~the~~a domain to which the message content refers,
- an entire URL of the content to which the message content refers,
- an IP address of the best cache to serve the domain, and
- a life time of the register.

38. (currently amended) The ~~interface component~~ CIG defined in claim 26, wherein the ~~core module comprises a memory hosting is configured to host~~ a data structure containing information on the state of the respective ~~Content Delivery Network~~ CDN and at least one similar internetworking network other CDN included in the set of CDNs.

39. (new) The CIG defined in claim 31, wherein the at least one identification of a physical characteristic includes a geographical distance of the connection between the CIG and the at least one similar CIG.

40. (new) The CIG defined in claim 32, wherein the IP transportation protocol is the TCP protocol.